SB
761
.A3
A4
1956

FEB 4 1957
FOREST SCIENCE LAB.
COLLEGE, ALASKA

U. S. DEPARTMENT OF AGRICULTURE - U. S. FOREST SERVICE

ALASKA FOREST RESEARCH CENTER

Forest Insect Survey

FOREST INSECT CONDITIONS IN ALASKA

1956

Forest insect activity in Alaska is at the lowest point in several years.

The blackheaded budworm epidemic, that raged throughout most of Southeast Alaska from 1948 to 1955, has ended. The hemlock sawfly, also recently epidemic over large areas of Southeast Alaska, has now declined to moderate activity in a few scattered locations.

Ips interpunctus continues to kill white spruce over a broad area near Fort Yukon in Interior Alaska.

The Sitka spruce beetle remains at a generally endemic level, with the only active infestation occurring at Port Bazan on Dall Island.

South of the Alaska Range and on the Kenai Peninsula the Alaska spruce beetle is causing scattered group losses in white spruce.

No direct or indirect control measures were undertaken against forest insects in Alaska in 1956.

STATUS OF THE MORE IMPORTANT FOREST INSECT PESTS

IPS BEETLES, Ips interpunctus Eichhoff

Ips interpunctus is believed responsible for the mortality of white spruce over a widespread area in northeastern Interior Alaska in the vicinity of Fort Yukon. This outbreak has been in progress for several years but the cause of the outbreak and the date of origin are not known.

No appreciable ground work has been carried on within the infestation area, nor has the area been completely mapped from the air.

Tree losses over this rather sizeable area appear to be continuing at an epidemic level.

Considerably more data are necessary from both aerial and ground surveys before the situation can be adequately assessed.

HEMLOCK SAWFLY, Neodiprion tsugae Midd.

Hemlock sawfly populations declined during 1956. Scattered light to moderate western hemlock defoliation was noted in the vicinity of Ernest Sound and Clarence Strait, and along Greens Creek on Admiralty Island. Populations of this insect have fluctuated greatly within the last few years, causing heavy hemlock defoliation some years and but light defoliation in other years. Light scattered defoliation is expected to continue within the presently active infestation areas during 1957.

BLACKHEADED BUDWORM, Acleris variana Fern.

The recent blackheaded budworm outbreak has completely ended. No reports of current blackheaded budworm activity were received in 1956 and combined ground and aerial surveys failed to detect any active budworm areas.

Mapping of western hemlock damage, caused by the 1948-1955 outbreak of the blackheaded budworm and the associated hemlock sawfly, was started during 1956. Slightly over 79,000 acres of partial top-killing to complete tree killing was mapped in 1956. Completion of this mapping in 1957 is expected to show in excess of 100,000 acres of permanent tree damage to western hemlock.

An appraisal survey was conducted to determine the amount of permanent hemlock damage resulting on one of the more severely affected areas. Most of the damage occurring on this surveyed area of 800 acres is attributed to the blackheaded budworm. Complete tree killing constituted 18.7 percent of the original green stand, three-quarter top-killing 9.1 percent, one-half top-killing 13.5 percent, and one-quarter top-killing 13.6 percent. This is a total of 54.9 percent of the original green stand of 31,207 ± 2,908 board feet per acre or a gross volume loss of 17,133 ± 1,656 board feet per acre. The complete tree killing and three-quarter top-killing are, for practical purposes, entire volume losses. The remaining one-quarter top-killed trees and the one-half top-killed trees may survive in their present condition. If so, the net volume loss per acre will be somewhat lower than the gross volume per acre loss given above.

SITKA SPRUCE BEETLE, Dendroctonus obesus Mann.

At Port Bazan on Dall Island a small infestation of the Sitka spruce beetle has persisted for several years. Ground and aerial examinations of this area in 1956 indicated that a million and one-half board feet of Sitka spruce has been killed. This area may be logged in 1957.

No other active outbreaks of this insect are known to exist in Alaska.

Of possible future significance was the finding of moderately heavy populations of the Sitka spruce beetle in water-damaged Sitka spruce. Glacial streams, because of siltation, are constantly changing their course and often cause the flooding of sizeable areas of spruce and other tree species. Some of these water-damaged trees harbor Sitka spruce beetle broods which could, under favorable conditions, erupt into outbreak status.

ALASKA SPRUCE BEETLE, Dendroctonus borealis Hopk.

White spruce losses due to this insect species are occurring in scattered groups in several areas south of the Alaska Range and on the Kenai Peninsula. Much of this loss has occurred over a lengthy span of years; however, active infestation centers continue.

LEAF BEETLES, Chrysomela interrupta complex.

An insect species belonging to the Chrysomela interrupta complex was noted causing light defoliation of black cottonwood north of Juneau. This same insect was epidemic north of Juneau in 1955 on black cottonwood and willow.

Summary of Forest Insect Survey Plans for 1957

1. General aerial survey of Interior Alaska in July.
2. General aerial survey of Southeast Alaska from June through September.
3. Finish aerial mapping of damage to western hemlock caused by the recent outbreaks of the blackheaded budworm and hemlock sawfly. (June through September)
4. Ground surveys to determine the amount of damage caused by the recent outbreaks of the blackheaded budworm and hemlock sawfly. (July through August)
5. Aerial and ground surveys of current hemlock sawfly activity. (May-June)
6. Aerial and ground surveys of the Ips interpunctus outbreak in Interior Alaska to determine the extent and trend of the infestation. (June)

Like most forest insect survey plans these are subject to modification as the more immediate demands of unforeseen insect activity become known.

Juneau, Alaska
December 19, 1956

G. L. Downing
Entomologist